

HINTS

ON

ENLARGING

THE

London Stereoscopic & Photographic

COMPANY, LIMITED,

106 & 108, REGENT STREET, W.,

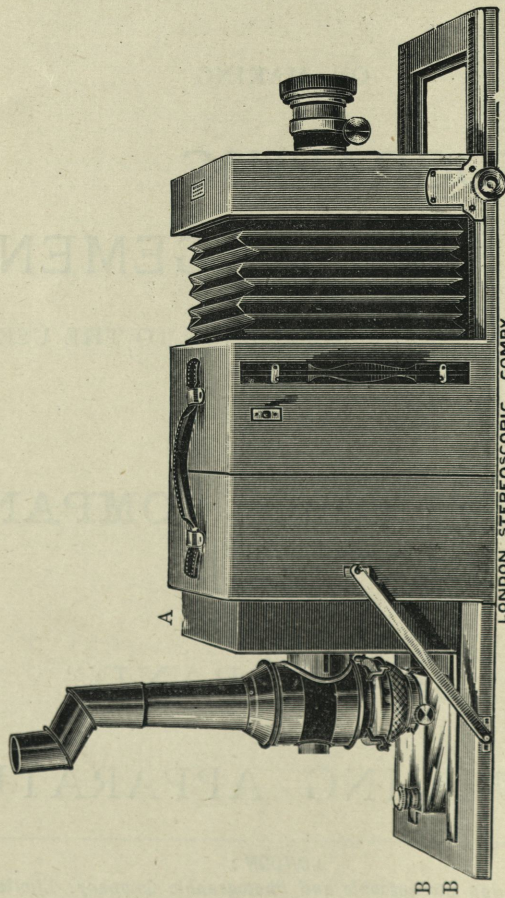
AND

54, CHEAPSIDE, E.C.

PRICE SIXPENCE.

PRACTICAL HINTS
ON MAKING
PHOTOGRAPHIC
ENLARGEMENTS,
WITH SPECIAL REFERENCE TO THE USE
OF THE
STEREOSCOPIC COMPANY'S
PATENT
"BLACK BAND"
ENLARGING APPARATUS.

LONDON :
*The London Stereoscopic and Photographic Company, Limited,
106 and 108, Regent Street, W.
And 54, Cheapside, E.C.
1893.*



(Frontispiece.)

The Apparatus ready for use.

(Fig. 1.)

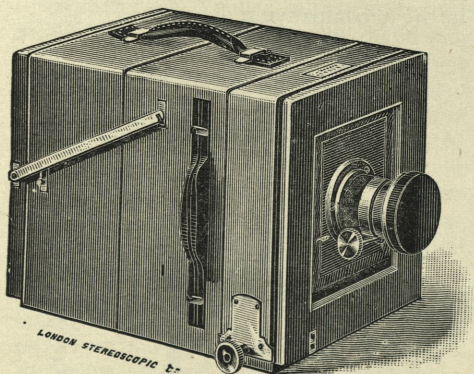
INTRODUCTION.

THE advent of the Gelatino-bromide process has effected a revolution, not only in the method of making the photographic negative, but also in the scarcely less important one of producing enlarged copies from it. The old and tedious methods of producing transparencies and enlarged negatives, or of salting and sensitizing plain paper which had to be used immediately, and which required a most powerful light if a picture was required in a reasonable time, are now happily matters of history, and the modern photographer is in a position to make enlarged prints from his small negatives with as little—nay, even less—trouble than would be involved in the production of an ordinary print on albumenized paper.

Since it has become the practice of photographers to make their own enlargements, a number of different lanterns and

cameras have been introduced, nearly all of which practically answered the purpose for which they were designed ; but most of them were either heavy or clumsy in appearance, or required more trouble in using than the modern photographer, educated to expect every luxury and convenience in his apparatus, was prepared to take.

With a view to remove this reproach, the Stereoscopic Company have introduced an entirely novel form of Enlarging Apparatus. In this the old and cumbersome body, which only served to contain the lamp, is entirely dispensed with, and the lamp itself placed outside, an opaque chimney preventing white light being diffused in the operating room. When not in use, the lamp can be placed inside the apparatus, and the whole closed up, it then presents the appearance of a rectangular mahogany box, which could, if necessary, be carried in the street without attracting undue notice.



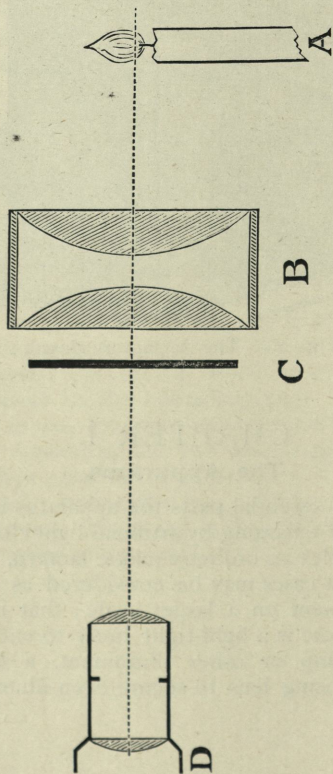
(Fig. 2.) The Apparatus closed.

CHAPTER I.

The Apparatus.

IN its essential parts the apparatus used for enlarging by artificial light closely resembles an ordinary magic lantern, and in most cases may be considered as that instrument on a larger scale; that is to say, there is a light-tight body to enclose the lamp or other illuminant, a large condensing lens to secure even illumina-

tion of the negative, and a lens to project the enlarged image upon the screen or sensitized paper. The relative positions of the essential parts are clearly shown in the accompanying diagram :



A. Source of Light. B. Condenser. C. Negative. D. Lens.

In selecting an enlarging apparatus the size of the condenser must be taken into consideration, as no negative larger than the condenser will cover can be enlarged from. Any portion of the negative that can be covered by the condenser may be enlarged, but if the entire picture is to be included the condenser must be equal in diameter to the diagonal of the plate; that is to say, that a condenser eight inches in diameter will be required if the whole of a half-plate negative is to be enlarged from. The projecting lens or objective should be capable of taking a picture at least as large as the negative, or portion of a negative, it is desired to enlarge from; in fact, in many cases it may be said that the lens with which the original negative was taken would be the best to enlarge it with. Especially would this be the case when a single lens, giving curvilinear distortion, has been employed, as the distortion in the negative would practically be neutralized by that caused by the use of the same lens in copying, or more particularly in enlarging. As a rule, however, when enlarging by artificial light, it is found expedient to employ a

lens of the portrait or portrait euryscope type, as the large diameter of the back lens ensures better illumination of the image, and consequently a shorter exposure is sufficient.

As may be supposed, the illuminant used for enlarging plays no unimportant part in the process. The oxyhydrogen, or limelight, is undoubtedly the best that can be employed, but is not usually to be found in the workroom of any but professional photographers. It is, therefore, necessary to fall back upon some form of lamp, and the type usually chosen is similar to that in common use for magic-lantern work, having three or four wicks parallel to each other, and standing at right angles, or nearly so, to the condenser—a long metal chimney being used to obtain sufficient draught to keep them burning brightly. This form of lamp, although answering well as far as light is concerned, gives quite a disproportionate amount of heat, and also requires a considerable amount of attention to keep the wicks from smoking. These difficulties have been entirely overcome in the "Black Band" apparatus by the use of a lamp which, while only having two

wicks, gives a most brilliant and steady light without the slightest amount of smoke or odour.

Only the negative carrier now remains to be described. This is usually a simple wooden frame sliding in a groove in front of the condenser, and having an aperture the size of the negative in the centre. The larger-sized carriers are generally fitted with inner frames to carry smaller plates.

The "Black Band" negative carrier differs in most of its essential points from the ordinary type. It consists of two frames hinged together like a book; the inner surfaces of these frames are fitted with a number of india-rubber pads or suckers, which serve to hold the plate firmly in any position when the two sides are brought together and clamped. Inner frames fit in each side, and are likewise furnished with rubber pads, so as to hold smaller negatives; or they may be used to shut off superfluous light when only a small portion of a negative is being enlarged from. This form of carrier allows considerable latitude in the relative positions of the centre of the negative and the centre of the condenser. This

adjustment is of great value when enlarging a single figure or detail from a large negative.

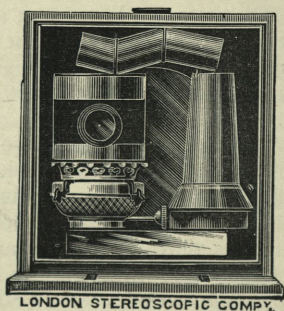


Fig. 3.

CHAPTER II.

How to make an Enlargement.

SET up the apparatus in the following way:—

The fastenings securing the folding baseboard must first be loosened and

refixed on the lower studs, so that the base is made perfectly rigid. The sliding body A (Fig. 1) is then pulled right out, and the lamp and chimney (as shown in Fig. 3) removed. The sliding body is at once replaced, and the lamp fitted together and slipped into the grooves (BB) provided on the rear baseboard. The cistern of the lamp should be nearly filled with the best kerosine or other good mineral oil, and the wicks carefully adjusted to the same height. The lamp must then be lighted, and allowed to burn for ten minutes or so ; this is necessary, as on first lighting the lamp the condensers will be covered with moisture, which will disappear as soon as they are thoroughly warm. While this warming process is going on, a drawing board, preferably covered with white paper, and of sufficient size to hold the sensitive plate or paper, should be fixed upon an easel, or hung upon the wall of the dark room in such a position as to be exactly parallel with the front of the apparatus, and at such a height as will bring the centre of the paper, when in position, exactly opposite the centre of the lens.

The greatest care should be taken in keeping the front of the apparatus and the drawing board absolutely perpendicular. The negative must now be placed in the carrier, which is slipped into the groove provided for it, and the picture roughly focussed on the drawing board to determine the size of the proposed enlargement. If the projected image is too small, the lantern should be moved away from the screen, and then re-focussed, if too large, the lantern must be brought nearer, and again focussed. The exact distances for any specified size may be calculated with mathematical accuracy, and tables for this purpose are given in most of the larger works on photography. In the great majority of cases this accuracy is not necessary, and the simple "trial and error" method is usually employed. The required size having been obtained, the negative should be temporarily removed from the lantern, and the lamp moved to and fro in its grooves until the circle of light upon the drawing board appears perfectly even. The negative, in its holder, must now be replaced and carefully focussed, using such a diaphragm in the lens as will give

sharp definition over the entire field. The lens is then covered with the red or yellow glass cap, and the sheet of bromide paper pinned upon the drawing board, taking care that it is placed so as to receive that portion of the negative image which it is desired to enlarge, and keeping the edges parallel with any vertical lines in the picture. Inattention to this detail often necessitates a serious cutting down of the picture; in fact, in some cases, rendering it worthless. Ordinary pins should be used to fasten the paper instead of drawing pins, as the latter leave large circular marks on the enlargement, while the former only leave a thin line, which is easily touched out. All is now ready for exposure, and the length of time required will vary enormously according to the rapidity of the paper used, the colour and density of the negative, and the amount of amplification required. If the lamp is properly trimmed, the illumination may be considered as a fixed quantity, so that we thereby overcome one of the greatest difficulties which the photographer has to deal with in the ordinary way. The variation due to difference in the size of

the enlargement is strictly mathematical, the exposure increasing as the square of the distance between the lens and sensitive paper, *e.g.*, if one minute exposure is necessary at one foot distance, four minutes will be necessary at two feet, and nine minutes at three feet. As a rough guide to exposure, it may be said that enlarging a thin 5 by 4 negative to 15 by 12, using a rapid bromide paper, and a medium sized diaphragm, about one and a half minutes will be sufficient ; while a very dense or stained negative may require 15 to 20 minutes. When large sizes are being used, it is advisable for the inexperienced operator to make a trial exposure on a small piece of the same paper as the enlargement is to be made upon, placing it on the drawing board so that it will receive such part of the picture as would require the longest exposure. Upon development, this will immediately show whether the entire sheet is to receive more or less exposure than the trial slip. After a few enlargements have been successfully made, the operator will not find it difficult to compare fresh negatives with those he has already used, and thus gauge the necessary

exposure with something like precision. If a vignetted picture is wanted the effect is produced by holding a large card with an oval or pear-shaped aperture between the lens and the sensitive surface during the exposure; a small opening held near the lens will give a very soft vignette, while a large opening held near the paper will give a more abrupt one. The vignetting card should be moved slightly to and fro during the exposure. After exposure, development may take place at once, or may be deferred until any convenient time. It should be particularly borne in mind that perfect cleanliness, so desirable in all photographic operations, is absolutely essential when printing or enlarging upon bromide paper, and that, particularly when using the ferrous oxalate developer, the enemy most to be feared is hypo-sulphite of soda. Pyrogalllic acid is also to be avoided as likely to produce annoying and indelible stains. If only the same dark room and sink is available for developing bromide enlargements and ordinary negatives, it should be carefully cleaned, and all trays or dishes sponged with a little dilute hydrochloric acid, and then well washed

in clean water. These extreme precautions are, however, not so essential when other developers are being used. Before development, the exposed paper should be soaked for a minute or two in clean water, so as to render it quite limp. It is then carefully drained, and covered with ferrous oxalate developer. The image will now rapidly appear, and should attain its full strength in one or two minutes. Care should be taken not to overdevelop, and it is a wise precaution to pour off the developer a few moments before the picture is quite finished, and to allow development to go on with the small quantity of solution absorbed by the paper. The instant the picture is fully developed, it should be covered with a weak solution of Acetic acid in water (one drachm of the acid to a pint of water). This should be allowed to remain on for two or three minutes, then is poured off and replaced with a fresh solution; this is again repeated, making three acid baths in all. The enlargement must now be thoroughly washed, as there is great risk of fading if there is any trace of acid on the paper when it goes into the fixing bath. *At*

least ten minutes' washing under a rose tap is necessary before the picture is transferred to the fixing bath, which may conveniently be of the usual strength—say four ounces of hyposulphite of soda to a pint of water—in which it should be allowed to remain until thoroughly fixed. This will take, according to temperature, from ten to fifteen minutes.

The concluding operation—that of washing out the hyposulphite, should receive special care. The picture should be well rinsed for ten minutes under a rose tap, and then soaked in a dish or sink, frequently changing the water, for a further period of two hours.

If time is an object, the whole of the washing may be done by means of the rose tap. In this case, half-an-hour will be long enough. After washing, the print should be well drained, and then hung up by one or two corners, according to the size and consequent weight of the wet print. Some operators make a practice of laying their enlargements out flat upon blotting paper to dry, but this practice is not to be commended, as there is a chance of the water

accumulating in little pools upon the surface, and causing stains. Bromide prints must never be dried *between* blotting paper.

The method of development differs but little when any of the newer developers are used. When Hydrokinone, Eikonogen, or Amidol are employed as developers for bromide paper, the acid bath and the subsequent washing are dispensed with, and the prints, after having the developer well rinsed off, are at once transferred to the fixing bath. All risk of fading through imperfect washing out of the acid is thereby avoided, as is also the chance of discolouration of the paper through the presence of traces of iron being left in it. Iron, never having been introduced, can certainly cause no injury. Full instructions for mixing and using the various developers will be found in Chapter III.

Although the photographer has to get the best possible results from negatives of widely different characters, it is advisable, when making a negative specially with a view to subsequent enlargement, to endeavour to secure those qualities

which will conduce to the most perfect result. What is known as a "vigorous" or "plucky" negative is by no means the best for producing bromide prints, either by contact or by means of an enlarging apparatus. The perfect negative for this purpose should be fully exposed, yet without the slightest trace of fog in the deepest shadows. The highest lights should be of such a density as to allow the shape of a gas or candle flame to be easily seen through them, and there should be little or no bare glass in any part of the picture, the very deepest shadows only excepted. The beginner should select a negative as nearly as possible fulfilling these requirements for his first trials, and he will then be assured that any failures he may meet with will be due to errors in manipulation, and will not be caused by the use of an unsuitable negative, which might tax an expert to the utmost, were he to try to produce even a passable result.

Particulars of the different kinds of bromide paper, developers, &c., will be found in the next chapter.

CHAPTER III.

Papers and Developers.

BROMIDE Paper, that is to say, paper coated with a slow gelatino-bromide emulsion, has now almost, if not quite, superseded the older methods of making what may be termed direct enlargements, that is to say, where the projected image of the negative is received and fixed upon the sensitive surface which is to form the finished picture. There are at present many excellent brands of bromide paper on the market, varying chiefly in thickness and in rapidity, but the beginner would do well to select one reliable make and continue experimenting with it until he can produce good results with something like certainty. Nearly all makers send out two rapidities of bromide paper and for enlarging the more rapid is to be generally preferred; if, however, very thin negatives are to be dealt with, there is a distinct advantage in using a slow paper, as more contrast is thereby obtained. Bromide Papers also vary greatly in regard to their surface, some being nearly as smooth and thin as

albuminized paper, while on the other hand some are as rough as the roughest drawing paper. The selection of a surface for any particular class of work is to a great extent a matter of personal taste, the smoother surfaces and thinner paper should be used for small work where minuteness of definition is a desideratum, for larger work even where a smooth surface is desired it is advisable to use a thicker paper, as it is less likely to tear while being handled in a thoroughly wet condition. When broad effects of light and shade are wanted the roughest bromide paper is employed, and gives a soft and mellow result, only to be equalled by a fine mezzotint or monochrome drawing; there is a brand of paper in the market in which a very rough yellowish drawing paper, known as Creswick paper is used. Some of the finest examples in our recent photographic Exhibitions have been made on this paper. It may here be mentioned that the surface of bromide paper requires no sizing or preparation for finishing in oil or water colours, the rougher grades will take crayon or pastel freely, but the smooth will require treating with pumice or some

other abrading powder to give sufficient "tooth."

Opal plates coated with emulsion similar to that used for the paper are to be had in all the regular photographic sizes, and afford a pleasing variety of effect when using comparatively small sizes, say 15 x 12, and under.

Until recently there was practically only one developer at all suited for bromide work, viz., ferrous oxalate, and as it is still a favourite with most experienced workers, the formula for making it is here given first place. Although not absolutely necessary, it is desirable that all solutions made for photographic purposes should be carefully filtered. As a general rule solutions will keep better if made with water which has been well boiled and allowed to cool and settle, this will drive out the carbonic acid usually present, and precipitate the lime-salt found in most of the water used in this country, it also deprives the water of any free oxygen it may hold and thus conduces to the preservation of solutions of pyrogallol, hydrokinone, and the like. Solutions likely to deteriorate should be bottled in small bottles, as they will keep

longer when there is no air in the upper portion of the bottle to furnish oxygen for absorption.

Ferrous Oxalate Developer.

No. 1.

Oxalate of Potash	1 lb.
Hot Water	48 ounces.
Acetic Acid	3 drachms.

No. 2.

Protosulphate of Iron	1 lb.
Hot Water	32 ounces.
Acetic Acid	$\frac{1}{2}$ drachm.

or

Citric Acid ($\frac{1}{4}$ ounce).

No. 3.

Potassium Bromide	1 ounce.
Water	40 ounces.

The above solutions will keep well before mixing.

For use take six ounces of No. 1, add to this one ounce of No. 2, and $\frac{1}{2}$ drachm of No. 3. Be careful to mix in the above

order and see that the solutions are quite cold before they are poured on the paper. If over-exposure is suspected development may be commenced with half the prescribed quantity of iron solution and the remainder added subsequently if necessary. Any excess of iron solution will cause a yellow precipitate which is likely to spoil the print. To secure the best and most even results fresh developer should be used for each picture, as prints developed with old solution are very apt to lose strength in the fixing bath.

The Hydrokinone developer is now so popular for negative work that many amateurs will doubtless be glad to know that it will answer fairly well for developing bromide paper. The Stereoscopic Company's Concentrated Hydrokinone Developer diluted with 50 per cent more water than directed for negative work will be found quite satisfactory. When enlarging from thin negatives a few drops of 10 per cent bromide solution will help to secure contrast of light and shade.

The Tondeur Developer which is sold in a dry form also answers admirably for developing bromide pictures, and from its portability can be strongly recommended

to travellers and to residents in countries to which it would be dangerous and expensive to send fluid developers. Those who prefer to compound their own developers will find the following formula a reliable one.

Hydrokinone Developer.

No. 1.

Hydrokinone	160 grains.
Bromide of Potassium	30 grains.
Sulphite of Soda	2 ounces.
Water	to 20 ounces.

No. 2.

Caustic Soda	100 grains.
Water	20 ounces.

To develop bromide prints or enlargements take one ounce of No. 1, one ounce of No. 2, and one ounce of water. *The acid clearing solution is not necessary when using this or any of the following developers, and should not be used.*

Eikonogen is a newer candidate for favour and will give excellent results as a developer for either negatives or bromide

paper; for the latter the following formula will be found to answer well :—

Eikonogen	40 grains.
Sodium Sulphite	160 grains.
Lithium Carbonate	20 grains.
Water	10 ounces.

Prints developed with the above will only require slightly rinsing before being transferred to the fixing bath. The Eikonogen Developer is also sold in the form of cartridges containing the proper proportions of Eikonogen, Sulphite, and Alkali. It is only necessary to dissolve the contents of one of these in a few ounces of water to have a developer fit for almost any class of work.

Yet another new developer, **Amidol**, has recently come before the photographic public, and although specially recommended for the development of instantaneous exposures, has, in the hands of the writer, given excellent results with bromide paper. A stock solution is made as follows :—

Amidol	1 ounce.
Sulphite of Soda	10 ounces.
Water	50 ounces.

To develop bromide prints take

Stock Solution	1 ounce.
Water	5 ounces.
10 per cent Bromide Solution	50 minims.
(No Alkali is required.)	

This developer will develop quite a large number of pictures in succession before showing signs of losing strength, the diluted solution will also keep for a considerable time if put into small bottles which are filled up to the neck and tightly corked.

The ordinary pyro and soda developer as used for negatives will give clean and brilliant bromides if the stock solutions are diluted for use with a 10 per cent solution of Sulphite of Soda, instead of water as generally recommended, a little 10 per cent solution of Bromide of Potassium may be added with advantage.

CHAPTER IV.

Opal Pictures, Transparencies, and Enlarged Negatives.

INSTEAD of Paper a kind of white glass closely resembling porcelain and

known as "Opal" glass is sometimes used as a support for the sensitive coating of Bromide of Silver. Pictures upon this basis naturally possess a softness and delicacy which cannot be expected of a paper print, and at the same time the surface lends itself admirably to retouching and finishing in crayon, oil, or water colour. The manipulation of these plates in no way differs from that practised in making paper enlargements, the only precaution necessary being to put the plate in the exact position in which the image has been focussed. If the focus has been obtained upon the surface of the drawing board the thickness of the opal plate when placed in position upon it will have to be allowed for and the focus re-adjusted, either by moving the board or the enlarging lantern to a corresponding extent. A better plan is to fix a waste opal or a piece of glass covered with white paper in the exact position to be occupied by the sensitive plate and to focus upon that. Two small nails or large tacks will serve to support the bottom of the plate or opal, while a strong drawing pin should be driven into the board so that the head will overlap the top edge of the opal and

keep it from falling forward.

Although the "Black Band" Enlarging Apparatus is mainly intended for the purpose which its name implies it can also be used for making *reduced* copies from negatives. Beautiful little pictures for finishing as miniatures can be made on opal or paper. When it is desired to reduce, the bellows should be fully extended. The apparatus can also be used in the same way for the production of magic lantern slides.

Transparencies for window decoration, etc., are made in precisely the same way as opal pictures, substituting glass plates coated with a special emulsion. Slow negative plates may be used, but the transparencies will not be so brilliant nor will the colour be so good.

Enlarged negatives enable the photographer to produce prints in platinum, in carbon with its many and beautiful tints, or on albuminized or emulsion papers. They are easily made by the aid of the "Black Band" Enlarging Apparatus, the method being as follows. Make a transparency from the small negative by placing it in an ordinary printing frame in the dark room, instead,

however, of putting a piece of sensitized paper behind the negative a dry plate is substituted and the back replaced as usual, the frame is then held at a distance of about two feet from the flame of an ordinary lamp or gas jet and a short exposure given, varying according to the particular kind of plate used and the density and colour of the negative from three to ninety seconds or even more. The special plates recommended for transparency work will give the best results, although a good ordinary negative plate, such as the "Black Band" Sensitometer, No. 19, will answer very well, only a very short exposure being necessary in this case. Very rapid plates should not be used for transparency work. Development, fixing, and washing are now proceeded with as for negative work, preference being given to a developer which does not stain the film yellow. Any of the developers recommended for bromide paper will be found excellent for transparency making. Excessive density should be avoided, but every detail, both in the high lights as well as the deep shadows, should be clearly brought out. When dry the transparency should be

placed in the negative holder of the enlarging apparatus, and the image projected upon the opal or paper covered plate as recommended for making opal pictures or large transparencies, this is then replaced by a slow negative plate, and an exposure of a few seconds given; one-tenth or even less of the time required for a similar enlargement on paper will be sufficient. The development and finishing in no way differs from the ordinary procedure for plates exposed in the camera. An alternative method is to make an enlarged transparency as described for window decoration, and then to make the enlarged negative by contact therefrom. When absolute sharpness is not a desideratum bromide paper may be substituted for the plate in making an enlarged negative, but in this case, the development must be carried farther than for a print, so as to gain sufficient printing density. When perfectly dry, the back of the paper should be saturated with vaseline, in order to render it transparent, thus facilitating printing. It is better for this purpose to use a thin paper such as Eastman's A. Charming soft results can be obtained in this way, and the

negative being of no appreciable thickness can be printed from either side, which is no slight advantage to those who work the carbon process. Flexible celluloid films may of course be used in the same way, and equally possess the merits of portability and immunity from fracture. Where space is limited, the advantage of being able to keep fifty or one hundred large negatives in a portfolio needs only to be mentioned to be appreciated.

CHAPTER V.

Uranium Toning.

FOR a considerable time it was considered impossible to obtain anything like a warm tone on bromide prints. Prolonged exposure and a highly restrained developer gave the nearest approach to it, but at the best, the result could only be characterized as a rusty black.

Recently, however, Mr. J. Weir Brown was struck with the happy idea of applying the Uranium intensifier, as used for many years for negatives, to a bromide print, with a view of obtaining a brown.

tone. In this he was, after several trials, quite successful, and a bromide print or enlargement can now be toned to any shade of brown, almost indeed to the tint of red chalk. The print is made in the ordinary way, thoroughly fixed and well washed (a trace of hypo will spoil the whole thing) and then immersed in the following solution, which should be prepared immediately before use:—

Ferridcyanide of Potassium	10 grains.
Nitrate of Uranium	10 grains.
Glacial Acetic Acid	200 minims
Water	20 ounces.

In a minute or so a decided change in colour will be apparent, this is carefully watched, and directly the desired tone is reached, the picture should be removed and washed until every trace of yellowness is removed. The washing should not be unduly prolonged, as it is apt to weaken the picture. If a "Bartolozzi Red" is wanted the toning should be carried on until no further change takes place, the print is then washed and immersed in the ordinary Ferridcyanide and Hypo reducer until the original silver image is dissolved away, finally washing for about

twenty minutes.

It must be borne in mind that Uranium toning has a tendency to clear the high lights and deepen the shadows of a picture, so that prints designed for this treatment should receive a full exposure and not be over-developed. The toning proceeds more readily when Hydrokinone or Eikonogen has been used as the developer. Nevertheless, iron developed prints can be successfully toned. This method of toning is of course applicable to pictures on opal or glass, as well as on paper. It may be added that Uranium impressions have the credit of being more permanent than those in silver or gold.

CHAPTER VI.

Mounting and Finishing.

BROMIDE Prints must be mounted dry, on account of the delicate nature of the gelatine surface. When quite dry, the print should be laid face downwards upon a clean piece of paper, and the back covered with freshly made starch paste, which must be quite

cold before it is used ; take great care that none of the starch gets upon the face of the photograph, adjust the print upon the mount and press into contact with a clean soft duster or old handkerchief, rubbing gently from the centre outwards to expel any air bubbles. The mounted pictures may now be laid out separately till dry. Prints so mounted may be burnished in the ordinary way, taking care however that they are perfectly dry before doing so. Very large pictures are usually mounted on stretching frames covered with cheap calico, and to do this the print is coated with starch as described above, while lying on a perfectly flat surface. The strained calico is also brushed over with starch, laid down upon the print, and gently rubbed into contact *from the back*. Do not rub down from the front or the edge of the stretcher will show through as a sharp line, the part under the frame may be rubbed down with a paper knife or the handle of a spoon. The print may appear rather "baggy" when damp but when dry will be stretched perfectly smooth.

Any slight defects can now be touched out with Indian ink or lamp black, or the

picture finished in oil or water colours, no special preparation of the surface being necessary. Crayons, either black or coloured, may be effectively employed for finishing, a special kind of black crayons having been prepared for the purpose and sold under the name of "Bromide Pencils." This is the easiest and safest method of finishing for the amateur who has had no previous experience in artistic work. Without attempting to interfere with the outlines of the picture, the shadows may be deepened, high lights relieved on lace or drapery, and any obtrusive detail toned down. Beyond this the average amateur photographer may not safely go, unless he or she has had some experience or training in artistic work. If the effect of a brown tint on the paper is required for working upon in black and white crayons, after the manner of the many art studies published as drawing copies, the print may be soaked in cold weak coffee until the desired tint is attained.

ABRIDGED CATALOGUE
OF
ENLARGING LANTERNS,
BROMIDE PAPERS,
DEVELOPERS,
HAND CAMERAS, &c.
SOLD BY THE
LONDON STEREOSCOPIC AND PHOTOGRAPHIC
COMPANY, LIMITED,
106 & 108, REGENT STREET, W.,
AND
54, CHEAPSIDE, E.C.

THE

London Stereoscopic Company's

NEW

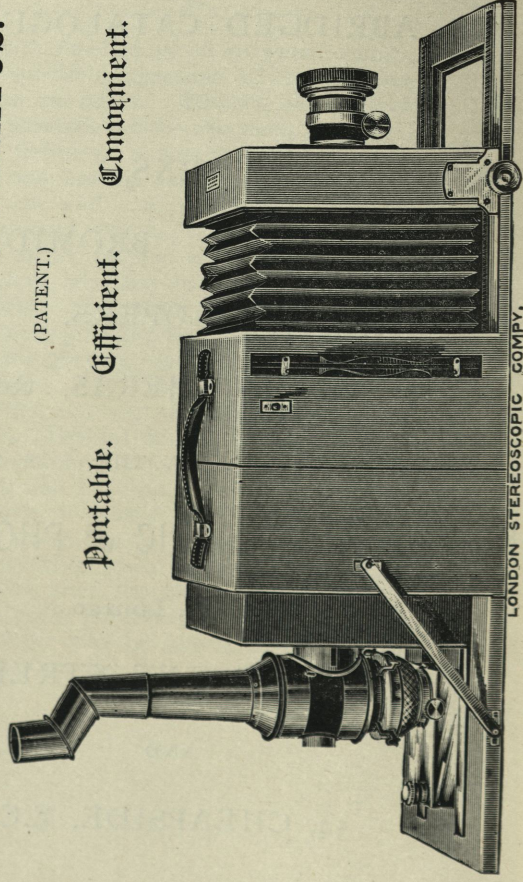
"BLACK BAND" ENLARGING APPARATUS.

(PATENT.)

Portable.

Efficient.

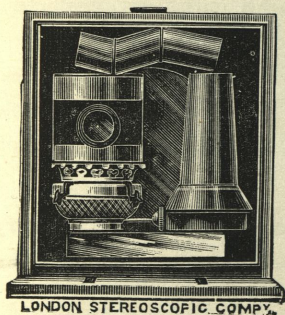
Convenient.



LONDON STEREOSCOPIC COMPANY.

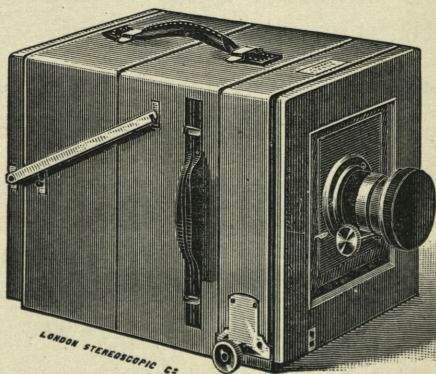
The Apparatus opened ready for use.

See Next Page.



The accompanying engraving shows the arrangement of the lamp inside the sliding body of the apparatus. The body of the lamp and the chimney are firmly attached to a padded board, which protects the inner surface of the condenser.

This Block gives an idea of the appearance of the Apparatus when closed. The front is fitted with a loose panel so that any lens may be attached if required.



For further particulars and prices see next page.

By a novel arrangement of the working parts, a considerable saving in space and weight has been effected, and, at the same time, increased facility in working has been obtained. When not in use the lamp is packed inside the focussing chamber, and the whole apparatus closes up into a plain rectangular box, with no projection larger than the focussing screw.

A Patent Plate Holder is supplied which permits any desired portion of the Negative to be brought opposite the Centre of the Condenser.

The Lamp is of the most approved construction, and gives a brilliant light without smoke or disagreeable odour. The Apparatus is the invention of a practical photographer, and there is nothing 'faddy' or superfluous about it.

**Price, including objective, with 5½-inch Condensers, £10 10s. ;
8-inch, £15 15s. ; 10-inch, £18 18s.**

The Stereoscopic Company would like their patrons to understand that the above Enlarging Lanterns are made and finished with the same scrupulous care that they devote to all their best camera work, and can with confidence be taken to India or any other hot climate without the extra cost of brass binding.

May be seen in operation at 106 & 108, Regent St., W.

The London Stereoscopic & Photographic Co., Ltd.,

106 & 108, Regent Street, W., and 54, Cheapside, E.C.

THE LONDON STEREOSCOPIC COMPANY
ARE AGENTS FOR
**EASTMAN'S ARGENTIC GELATINO-
BROMIDE PAPER,**

FOR

Direct Contact Printing and Enlarging from Small Negatives.

This paper is uniformly and heavily coated by machinery with Silver Bromide, mixed with the least possible quantity of Gelatine to avoid curling, and to preserve the tooth of the Paper for working with crayons, and is made in three grades :—

A.—SMOOTH SURFACE, THIN PAPER, for positive printing, copying drawings, etc., by contact.

B.—SMOOTH SURFACE, HEAVY PAPER, for enlargements and working in ink, oil, and water-colours.*

C.—ROUGH SURFACE, HEAVY PAPER, for enlargements, plain and working in crayon, ink, water-colour, and oil.

All one price.

Size. Inches.		All one price.				Price.	
						£	s. d.
4½	x 3½	in	Packets of 12 sheets	...	...	0	0 8
5	x 4	"	"	...	...	0	0 11
6½	x 4½	"	"	...	...	0	1 6
8½	x 6½	"	"	...	...	0	2 6
10	x 8	"	"	...	...	0	3 6
				¼-Quire.	½-Quire.	Quire.	
				6 Sheets.	12 Sheets.	24 Sheets.	
				£ s. d.	£ s. d.	£ s. d.	
12	x 10	...	...	0 3 6	0 6 0	0 11 0	
15	x 12	...	...	0 4 6	0 7 6	0 14 0	
23	x 17	...	...	0 7 6	0 14 0	1 5 0	
25	x 21	...	...	0 11 6	1 2 0	2 0 0	
30	x 22	...	...	0 14 6	1 5 0	2 8 0	
30	x 25	...	...	0 16 0	1 8 6	—	

THE ILFORD BROMIDE PAPERS.

The Paper is made in four grades. **S.S.**, Smooth Slow ; **S.R.**, Smooth Rapid ; **R.S.**, Rough Slow ; **R.R.**, Rough Rapid.

The Slow kind is suitable for both Contact Printing by Artificial Light and for Enlargement by Daylight. The Rapid for Enlargement by Artificial Light. The question of surface is one of taste only, though the rough is preferable for large work.

The Rapid Paper only requires one twentieth of the exposure of the Slow.

ROUGH OR SMOOTH SURFACE. RAPID OR SLOW.

PER DOZEN SHEETS.			s.	d.				s.	d.
4½ x 3¼	...	...	0	6	15½ x 12½	...	...	6	6
5 x 4	...	...	0	9	PER HALF-DOZEN SHEETS.				
6½ x 4¾	...	...	1	1	18 x 15	...	...	5	3
8 x 5	...	...	1	5	20 x 16	...	...	5	9
8½ x 6½	...	...	1	11	23 x 17	...	...	6	9
16 x 8	...	...	2	9	24½ x 19	...	...	7	6
12½ x 10½	...	...	4	0	Roll, 10ft. long x 24½in. wide	...	...	8	6

THE ILFORD BROMIDE OPALS,

Which are prepared with the same Emulsion as the Bromide Papers, and are supplied either Rapid or Slow, both at the same price.

Size.	Per doz.
	£ s. d.
4½ x 3¼	0 1 6
5 x 4	0 2 6
6½ x 4¾	0 3 8
8 x 5	0 6 6
8½ x 6½	0 10 0
10 x 8	0 16 0
12 x 10	1 4 0
15 x 12	

A piece of Bromide Paper enclosed in each box as a test for exposure.

NOTE.—When ordering Bromide Paper or Opals, please state whether the Rapid or Slow kind is required.

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Pyro and Ammonia, Pyro and Soda, Hydrokinone, and other Developers at the following prices per pair of bottles. Sizes :—

No. 1, per pair	- 1/6	No. 3, per pair	- 3/6	No. 5, per pair	- 10/6
No. 2, „	- 2/6	No. 4, „	- 5/-	No. 6, „	- 21/-

They will keep well for years. Fullset printed directions with each bottle.

Ferrous Oxalate Developers for Bromide Papers, 3/6 per pair.

Intensifying Solutions, 3/6 per pair.

Reducer for Negatives, 2/6 per bottle.

Toning Solution, 2/6 and 3/6 per bottle.

Eikonogen Cartridges, containing all the ingredients for a perfect Developer, 3/- per box.

The Celebrated Tondeur Developer, in Powder, 3/- per packet, sufficient to make one Quart of Developer.

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From Amateurs' Negatives at reasonable Prices. The best Printers only are employed.

KODAK Developing and Printing carefully executed and proofs sent in **10 days.**

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THE LONDON STEREOSCOPIC COMPANY

ARE PREPARED TO MAKE

ENLARGEMENTS FROM AMATEURS' NEGATIVES,

AT THE FOLLOWING RATES:—

*Enlarged or reduced Negatives from Photographs or Prints, including
One Print.*

Size.		Negative and one print unmounted.	Size.		Negative and one print unmounted.
C.D.V. ...	...	£0 2 6	8½ x 6½ ...	...	£0 6 0
¼-plate ...	...	0 3 0	10 x 8 ...	...	0 8 6
5 x 4 ...	...	0 3 6	12 x 10 ...	...	0 10 6
6½ x 4¾ ...	...	0 4 0	15 x 12 ...	...	0 17 6
7½ x 5 ...	...	0 4 6	20 x 16 ...	...	1 1 0

Extra Prints charged at the same rate as Printing from Amateurs' own Negatives.

If made from a ¼-plate Negative,	Cost of Transparency	s.	d.	
5 x 4	..	1	0	extra.
½	..	1	6	..
1/1	..	2	6	..
10 x 8	..	3	6	..
12 x 10	..	4	0	..
	..	5	0	..

Enlargements direct on to Gelatino-Bromide Paper
from Amateurs' Negatives.

Size.	s.	d.	
10 x 8 ...	4	6	per copy from any size Negative.
12 x 10 ...	5	6	..
15 x 12 ...	8	6	..
20 x 16 ...	10	6	..

Larger Sizes to Order.

Mounting Extra.

"Dear Sir,—Thanks for enlargements, which I think are done as well as they POSSIBLY COULD
BE. Would you kindly return Negative.

"Yours truly, E. W. ALABONE."

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CARBUTT'S NEGATIVE FILMS

Are now too well-known to require any mention of their excellence.

A very large Stock of all Sizes is held by Carbutt's Sole Agents

THE STEREOSCOPIC COMPANY.

PRICES.

	s.	d.	
Quarter-plate	... 2	3	per doz.
5 x 4 ...	... 3	4	„
Half Plate	... 5	0	„
7½ x 5 ...	... 6	3	„

PRICES.

	s.	d.	
Whole-plate	... 8	9	per doz.
10 x 8 ...	... 12	6	„
12 x 10 ...	... 19	6	„
15 x 12 ...	... 30	0	„

Special film carriers are made to enable the user to fit the film to any dark Slide.

Special and Important Notice to Users of Hand Cameras

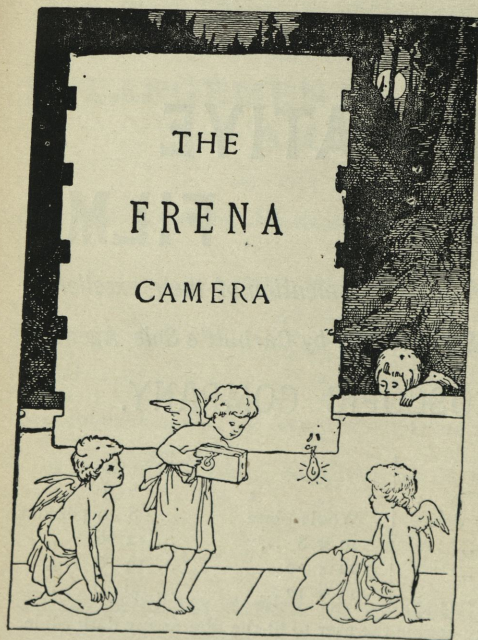
THE 'ARTIST' FILM

Is Coated with the QUICKEST EMULSION in the World, and gives Negatives that are plucky, clear, and bright.

THE PRICES ARE THE SAME AS FOR CARBUTTS.

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NO HOLDERS OR
CARRIERS.
PERFECT LENS.
ADJUSTABLE
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NEW AND
PERFECTED
FILMS.

Handbook giving
Complete Instructions
sent with
each Instrument.

PRICE, £5 5s.

Size of Film, $3\frac{1}{4} \times 3\frac{1}{4}$.

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Useful alike for the experienced photographer and the
first beginner.

SEND FOR A DESCRIPTIVE PAMPHLET.

THE

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IS THE

'TWIN LENS ARTIST.'



AS USED

BY

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PRINCESS

OF

WALES

Shows on the Finder an exact reproduction of the picture being photographed.

Can be focussed during transition of the object.

Has a shutter capable of any speed, either slow, rapid, or time.

Has the largest Sale of any Hand Camera in the World.

Price for 5 x 4, fitted with two accurately paired Euryscope Lenses, £15 15s.

Half-plate, £25;

7½ x 5; £26 6s.;

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SPECIAL AND IMPORTANT NOTICE.

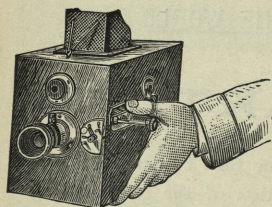
THE TWIN LENS 'ARTIST' CAMERA

Is so constructed that while the object is passing it can be *focussed and exposed at the same time*, added to which the *whole of the picture can be seen during the time of exposure.*

THE

London Stereoscopic & Photographic Co., Ltd.,

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THE
STEREOSCOPIC
COMPANY'S
"ARTIST" HAND CAMERA,

*Can be used with Dry Plates. Is used in Hot and Cold Climates.
Is used everywhere. Call and see Specimens taken with it.*

USED BY AMATEURS

Because it is neat, portable, self-contained, and perfect.

USED BY PROFESSIONAL PHOTOGRAPHERS

Because it is the only practical hand-camera ever made.

USED AT HOME

Because of its capacity for any kind of work either time or instantaneous.

USED ABROAD

Because no other hand-camera can be found with such universal advantages.

Made in Three Sizes to take pictures $3\frac{1}{4} \times 4\frac{1}{4}$, £10 10s. ;
 5×4 , £12 12s. ; $6\frac{1}{2} \times 4\frac{3}{4}$, £15 15s.

SPEAKING OF THE

"ARTIST" HAND CAMERA,

"PHOTOGRAPHY" SAYS :—

"The Stereoscopic Company have produced a hand-camera pure and simple, hand-somely finished, and cleverly designed. Nothing has been spared to make the 'Artist' Camera a thoroughly useful one in every respect."

THE
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THE STEREOSCOPIC COMPANY'S "BINOCULAR" CAMERA.

PATENT.

Weight only

19 oz.

Finder shows

full size

of

Picture.



Carries 12

Plates,

2¼ x 1½ in.

Instantaneous

Changing.

Rapid Lens.

SIZE AND APPEARANCE OF A SMALL FIELD GLASS.

There are two lenses side by side at a distance of $2\frac{1}{2}$ inches, one forming a perfect and convenient finder, showing the exact image that will appear on the exposed plate ; the other being an extra rapid rectilinear, double and symmetrical, with which the negative is secured. For outdoor work the exposure is instantaneous, but, in other cases may be easily regulated at will. By a simple and ingenious arrangement it is possible at any moment to ascertain how many plates have been exposed.

In consequence of the superior quality of the lens the pictures will bear enlarging to almost any extent. (SEE FOLLOWING PAGE.)

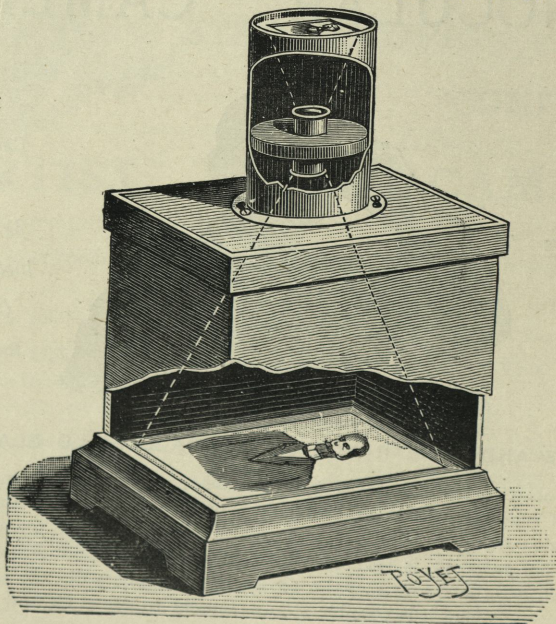
**Price of Camera and Lenses Complete in Case with
Shoulder Strap, £5 5s.**

THE

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SPECIAL ENLARGING APPARATUS FOR "BINOCULAR" NEGATIVES.



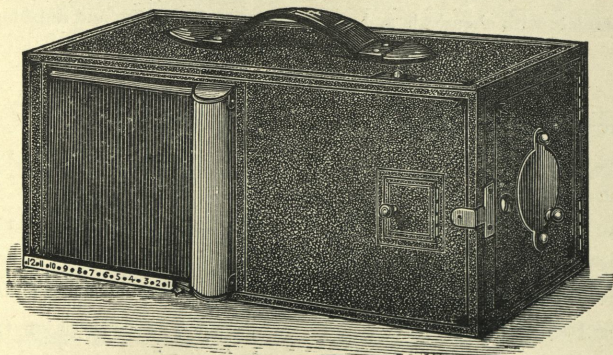
With the all important object of diminishing weight and increasing portability, the plates measure only $2\frac{1}{4} \times 1\frac{1}{2}$ inches, but the Inventor has designed a most perfect, yet simple enlarging apparatus, by means of which the original negatives are easily increased to cabinet size—a matter of considerable moment to operators making views for practical purposes, and especially commending it to amateurs for whom it will furnish an interesting and instructive occupation in a new direction, whilst practising this engrossing art.

Price of Camera and Lenses complete, with Case and Shoulder Strap, £5 5s.
Or, including Enlarging Apparatus and all necessary fittings, £10 10s.

FREE LESSONS GIVEN TO PURCHASERS.

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THE STEREOSCOPIC COMPANY'S "GRAPHIC" HAND CAMERA.



*Measures $11\frac{1}{4} \times 5\frac{3}{4} \times 4\frac{1}{4}$. Holds 12 plates. No Sheaths. No Backing.
No Dark Slides.*

Plates changed automatically without a separate chamber or the troublesome changing bag.

Any plate can be used at will. Plates are locked in a separate chamber and cannot be tampered with. Is fitted with a Rapid Rectilinear Lens, with revolving diaphragms. Has an excellent finder and shutter, capable of various speeds. Can be used for time exposures. Weight, loaded with 12 plates, 4 lbs.

Prices :—

$3\frac{1}{4} \times 4\frac{1}{4}$, £7 7s. 5×4 , £10 10s. $6\frac{1}{2} \times 4\frac{3}{4}$, £12 12s. $8\frac{1}{2} \times 6\frac{1}{2}$, £18 18s.

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A LIST OF THE Stereoscopic Coy.'s Photographic Sets

Complete with chemicals and every necessity for taking and finishing
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1.	The COMPLETE Set, <i>taking pictures</i>	$4\frac{1}{4} \times 3\frac{3}{4}$...	2	2	0
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6.	The INDIA Set	" " ...	11	11	0
7.	The INDIA improved Set	" " ...	13	13	0
8.	The COLLEGE Set, <i>taking pictures</i>	$6\frac{1}{2} \times 4\frac{3}{4}$...	10	10	0
9.	The ENGINEER Set	" " ...	13	13	0
10.	The INDIA Set	" " ...	17	17	0
11.	The PATENT Set	" " ...	19	19	0
12.	The COMPANY'S $8\frac{1}{2} \times 6\frac{1}{2}$	30	0	0
13.	The PATENT ditto	35	0	0
14.	The COMPANY'S 10×8	40	0	0
15.	The PATENT ditto	45	0	0
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PANELS, 105/- PER DOZEN.

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